

Predictors of Mortality Among Patients with Head Trauma

Thesis

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Critical Care Medicine**

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Abstract

Background: Traumatic brain injury is a leading cause of morbidity and mortality worldwide. Annually, about 1.5 million affected people die while several millions need emergency management. Unfortunately 90% of the burden occurs in low and middle income countries. The traumatized patient outcome is multi-factorial through combination of the clinical diagnosis and presence and severity of comorbidities in addition to the amount of monitoring and therapy received.

Aim: To evaluate the usefulness of the APACHE II (Acute Physiology and Chronic Health Evaluation II), RTS (Revised trauma score), GCS (Glasgow Coma Scale) scores and various variables as age, sex, labs and complications in predicting mortality of patients with traumatic brain injury (TBI) in the intensive care unit (ICU).

Methods: A Prospective cohort study conducted on acute TBI patients admitted to I.C.U at Damnhour medical national institute, Egypt during the period from January 2017 until January 2018. Predictive factors as APACHE II, GCS, RTS scores, age, gender, lab. data, MV days and complications were assessed to predict mortality and outcome for all patients. Our patients were followed-up for 2 weeks from the day of admission and divided into two groups (survivors and non-survivors).

Results: A total of 60 patients were enrolled. Mean age was 40.43 ± 16.90 years, the overall mortality of the total study was 45%. Independent early predictors of mortality were as follows: age mainly between 58-68 years ($p < 0.001$), hypertensive patients ($p = 0.005$), DM and CKD ($p < 0.001$ and $= 0.005$), increased lab values for PT, RBS, creatinine ($p < 0.005$), low Glasgow Coma Scale, low RTS and high APACHE score ($p < 0.001$), intracerebral hemorrhage ($p = 0.001$) and long stay on MV ($p < 0.001$)

Conclusions: Our results suggest that age, GCS, RTS, APACHE II score, RBS, hypertension, ICH and long stay on MV are independent early predictors of mortality in patients with traumatic brain injury.

Key Words: (*Traumatic brain injury, ICU scores, Mechanical ventilation*)